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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,673	11/18/2003	Edward R. Beadle	HAR62 013	2301

7590 08/28/2006

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EXAMINER

PHAN, DAO LINDA

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/714,673	BEADLE ET AL.	
	Examiner	Art Unit	
	Dao L. Phan	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 and 56-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-36 and 56-61 is/are allowed.
- 6) ☒ Claim(s) 62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3662

1. Claims 1-36, 56-61 are allowed.

2. Copies of:

Agee, B.G., "The Property Restoral Approach to Blind Adaptive Signal Extraction"

Bai, Z., J. Demmel, J. Dongarra, A. Ruhe and H. van der Vorst, Templates for the

Solution of Algebraic Eigenvalue Problems: A Practical Guide.

Gantmacher, F.R., The Theory of Matrices, Volume I.

Gantmacher, F.R., The Theory of Matrices, Volume II.

Golub, G.H. and C.F.. Van Loan, Matrix Computations.

Halmos, P.R. Finite-Dimensional Vector Spaces.

Harville, D.A., Matrix Algebra from a Statistician's Perspective.

Hayes, M.H., Statistical Digital Signal Processing and Modeling.

Haykin, S., Adaptive Filter Theory.

Johnson, D.H. and D.E. Dudgeon, Array Signal Processing: Concepts and Techniques.

Jutten, C. and J. Herault, "Blind Separation of Source, Part I: An Adaptive Algorithm

Based on Neuromimetic Architectures,"

Kanatani, K., Statistical Optimization for Geometric Computation: Theory and Practice.

Markus, A.S., Introduction to the Spectral Theory of Polynomial Operator Pencils,

Translation of Mathematical Monographs, Vo. 71.

Martin, G.P., "Polarization Based Steering Vector Determination,"

Nandi, A.K., Blind Estimation Using Higher-Order Statistics.

Nikias, C.L. and A.P. Petropulu, Higher-Order Spectra Analysis: A Non-Linear Signal

Processing Framework.

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Papoulis, A., Probability, Random Variables, and Stochastic Processes.

Rosenblatt, M., Stationary Sequences and Random Fields.

Schott, J.R., Matrix Analysis for Statistics.

Strang, G. Introduction to Linear Algebra.

Van Dooren, P., "Reducing Subspaces: Definitions, Properties, and Algorithms"

Widrow, B. and S.D. Stearn, Adaptive Signal Processing.

are requested for examination.

3. Claim 62 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

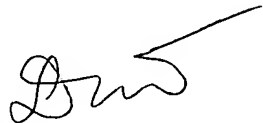
As to claim 62, lines 3-5, "determining the angle of arrival...from a fourth order cumulant of the received signal" is indefinite because this is read as a single means claim.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao L. Phan whose telephone number is (571)272-6976. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DANIEL
PATENT EXAMINER